

REMARKS/ARGUMENTS

In the Office Action dated June 13, 2005, the Examiner rejected all pending claims over the teachings of Midgley either alone or in combination with the teachings of Crouse.

Specifically, Claim 1 was rejected as being anticipated by US Patent 6,778,003 at the bottom of page 2 of the Office Action. Note that this patent number appears to be an error. Applicant assumes that the Office Action meant to identify Midgley's US Patent 6,779,003.

Applicant respectfully traverses the Examiner's rejection of Claim 1 for a number of reasons. A **first** problem with the Office Action is as follows. In explaining the anticipation rejection of Claim 1, the Examiner cites (in line 3 on page 3 of the Office Action) to "col. 24-67" of Midgley's patent. Note that Midgley's US Patent 6,779,003 ends at column 24. Hence, the reference to column 67 is believed to be another error in this Office Action. The following remarks are based on the assumption that the Examiner is referring to column 24 and no additional columns for teaching of "spawning a new process" as stated in line 2 on page 3 of the Office Action.

A **second** problem with the Office Action is that the Examiner-cited text in col. 24 in Midgley's patent, fails to disclose or suggest spawning a new process. Specifically, this column 24 contains claims 3-10 which are reproduced below for convenience:

3. The method of claim 2, wherein determining a data transmission capacity between a data server and a back up server comprises:

determining a data transmission capacity between a data server and a back up server

based on monitoring at least one SNMP (Simple Network Management Protocol) trap associated with at least one of the data server and the back up server.

4. The method of claim 2, wherein allocating at least one portion of the data transmission capacity comprises:

allocating at least one portion of the data transmission capacity based on a limit of data transmission capacity selected by a user.

5. The method of claim 2, wherein allocating at least one portion of the data transmission capacity comprises:

allocating at least one portion of the data transmission capacity based on at least one of:

a quantity of data to be transmitted in a unit of time,
a percentage of data transmission capacity, and

a percentage of a processing speed,
wherein allocating the at least one portion of the data transmission
capacity is performed by a user.

6. The method of claim 2, further comprising:
allocating the at least one portion of the data transmission capacity
between

transmitting the at least one source data file, and
transmitting the corresponding at least one journal file to the
backup server.

7. The method of claim 2, further comprising:
based on the allocated portion of the data transmission capacity,
transmitting at least one back up file from the back up server to the data
server to restore the corresponding at least one source data file based
on the at least one back up file.

8. The method of claim 2, further comprising:
storing the data in a buffer based on whether the at least one
source data file includes data exceeding the allocated portion of the data
transmission capacity.

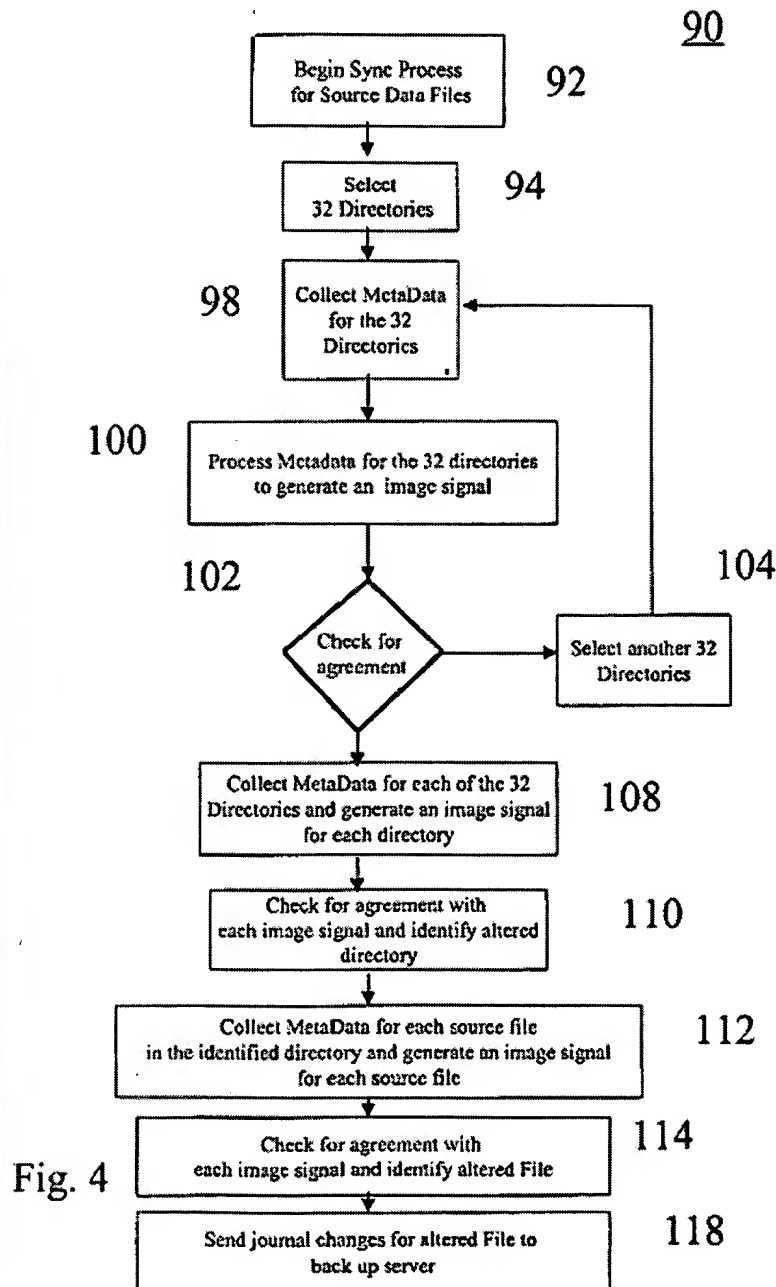
9. The method of claim 8, further comprising:
based on the allocated portion of the data transmission capacity,
transmitting data within the buffer to the back up server until all of the
data within the buffer is transmitted.

10. A processor program for backing up at least one source data
file, the processor program being stored on a processor-readable
medium and comprising instructions to cause a processor to:
determine a data transmission capacity between a data server
having storage for the at least one source data file and a back up server
having storage for at least one back up file corresponding to the at least
one source data file;
allocate at least one portion of the data transmission capacity to
transmitting data between the data server and the back up server;
dynamically detect changes to the at least one source data file as
the changes happen;
based on the dynamically detected changes, generate at least
one journal file corresponding to the at least one source data file; and,
based on the allocated portion of the data transmission capacity,
transmit the at least one source data file and the at least one journal file
to the back up server.

As can be seen from this quoted text, there is no disclosure or suggestion whatsoever in
Midgley's column 24 to spawn a new process.

A third problem is that on lines 2 and 3 on page 3 of the Office Action, the
Examiner cites to Midgley's figure 4, step 104 to "select another 32 directories," for

teaching Claim 1's spawning of a new process. However, Midgley's figure 4, which is reproduced below for convenience, fails to support the Examiner's position.



As can be seen from above figure, Midgley's step 104 is just one of several steps in this flow chart. All of steps 92-118 are not illustrated in the drawing as being executed any different from one another. Normally, when steps are shown indistinguishably from one

another, a skilled artisan would be led to believe that all these steps are performed identically, normally within a single process.

There appears to be no indication by Midgley as to anything special or unique in selecting directories in act 104. A skilled artisan, on reviewing Fig. 4, is likely to believe that act 104 is executed within the same process that executes the preceding act 102, and also executes the succeeding act 98. Spawning a new process in act 104 consumes additional resources, and would not normally be done.

Although Midgley discloses running of a synchronization replication process in parallel with a dynamic replication process (see column 13, lines 55-65 quoted below), Midgley appears to be silent as to which step in FIG. 4 starts the dynamic replication process. The Examiner has not stated as to what, if any, indication is there by Midgley that selection of directories (in act 104) causes Midgley's dynamic replication process to be started by the process that performs the flow chart in FIG. 4 (i.e. synchronization replication process).

A **fourth** problem with the Office Action is that the Examiner has not identified any evidence that Midgley's newly started (dynamic replication) process is to be "spawned" (as per Claim 1) conditionally depending on the nature of the item to be copied. Specifically, the Examiner has not identified any disclosure or motivation as to why Claim 1's conditional spawning is to be used, as opposed to start up on a schedule or other parameter that is unrelated to the item being copied. In fact, Midgley states in column 12 at lines 53-58 that the user may configure dynamic replication to occur continuously, or periodically, or according to another type of schedule or according to a set of parameters defined by the operation of the network, such as Network Bandwidth, Buffer Availability, or other network resource parameters.

A **fifth** problem with the Office Action is that the Examiner has not cited any text whatsoever in Midgley's patent for Claim 1's conditional spawning in combination with conditional copying. Specifically, in lines 1 and 2 on page 3 of the Office Action, the Examiner states that "if an item is a directory" is disclosed by Midgley's "94, 98, selecting 32 directories, fig. 4". Moreover, in lines 3 and 4 on this same page, the Examiner states that "if an item is a file" is disclosed in Midgley's "source data files 92, fig. 4, the source data files are to be synchronized for backup".

Note that Claim 1 requires two inter-related acts, wherein only one of them is performed depending on the nature of the item. In particular, note that Claim 1's "item" is recited in a first limitation which begins with "if an item is a directory" and provides antecedent basis for a later reference to the same item in a second limitation which begins with "if the item is a file." In contrast, Midgley's patent does not relate steps 92 and 94 in the manner of Claim 1. Hence, even assuming Midgley imposes conditions on the performance of his steps, such conditions are not related to the same item.

For one or more of the above-described five reasons, Applicant respectfully traverses the Examiner's position that Midgley's step 104 discloses process spawning as recited in Claim 1.

A sixth problem with the Office Action is as follows. Even assuming that Midgley teaches process spawning in act 104, Claim 1 distinguishes over Midgley's teachings for another reason. Specifically, there is no indication whatsoever by Midgley that the newly spawned process should itself perform spawning, i.e. repeated spawning. In this context it is appropriate to review a citation to column 13, lines 55-65 of Midgley's patent (made by the Examiner at page 3, line 8 of the Office Action) which are reproduced below for convenience:

The synchronization replication process 40 acts to coordinate the storage targets to have the storage targets accurately reflect the source data file at the point in time of the synchronization. During this phase, two types of replication processes may be running in parallel; a synchronization replication process and a dynamic replication process. Running these processes in parallel acts to have changes made to the files during the synchronization replication process be captured and replicated on the appropriate data file, and thereby ensures transactional integrity for the files identified in the policy file 50.

In the above-quoted text there is no indication whatsoever as to how Midgley's dynamic replication process is started. As noted above, there is no indication by Midgley that the synchronization replication process spawns the dynamic replication process. There also appears to be no indication that Midgley's dynamic replication process in turn spawns any process (such as Midgley's agent processes). As noted above, Midgley appears to be silent on these issues, and the Examiner has not shown any evidence to the contrary.

Hence Applicant respectfully traverses the Examiner's position that repeated spawning required by Claim 1 is disclosed or suggested in Midgley's patent.

A seventh problem with the Office Action is as follows. Even assuming that Midgley discloses repeated spawning, Claim 1 further distinguishes over Midgley's teachings for yet another reason. Specifically, there is no indication whatsoever that Midgley's dynamic replication process can copy files. Midgley appears to enable only his synchronization replication process to perform copying. Midgley's dynamic replication process (which is alleged by the Examiner to be spawned in act 104) does not perform copying of files.

For example, Midgley states that the dynamic replication process merely captures requests to move or rename a file, but does not see the actual information for the file. See Midgley's column 13 at lines 46-47. Instead of copying, a request must be made by the dynamic replication process to the synchronization replication process, to move contents. See Midgley's column 13 at lines 48-51. Midgley does state in column 15 at lines 50-59 that its dynamic replication process may replicate file and byte-level changes to backup server 12. However, Midgley's dynamic replication process places a copy of these changes into a journal file for transfer to backup server 12. There appears to be no suggestion that Midgley's dynamic replication process performs copying of the type performed by Midgley's synchronization replication process. In contrast, Claim 1 does not distinguish between the copy operations performed by its processes; specifically Claim 1's newly-spawned process copies files in a manner identical to copying of files by Claim 1's current process, because the same term "copying" is used.

To summarize, repeated conditional copying in combination with repeated conditional spawning by multiple processes is nowhere disclosed or suggested by Midgley. In contrast, Claim 1 requires repeated copying and repeated spawning by multiple processes depending on whether the conditions recited in Claim 1 are met. For one or more of the above-discussed reasons, Applicant respectfully requests the Examiner to withdraw the anticipation rejection of Claim 1 over Midgley's patent. Claims 4, 11, 19 and 34-39 that depend from Claim 1 are also believed to be patentable for at least the same reasons as those discussed above for Claim 1.

If the Examiner continues to reject any claim in a future Office Action over the teachings of Midgley, Applicant respectfully requests the Examiner to adhere to MPEP 707.07(f) which states in pertinent part "Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it." In particular, Applicant hereby requests the Examiner to explicitly address each of the above-described seven problems, individually (one at a time).

Note that Applicant does not agree with any of the Examiner's rejections of the remaining claims. The following remarks highlight just a few examples of several errors and unsupportable positions taken by the Examiner.

The Examiner stated in the bottom half of page 3 of the Office Action that Claim 4 was rejected because Midgley discloses a limit on the number of processes. In support of this remark, the Examiner cited to Midgley's column 9, lines 18-35, stating that "storage space is decided before backup." The Examiner does not identify what, if any, relation is there between storage space and process limit in Midgley's patent. In the absence of such a relationship, why should Midgley's limited storage space impose a limit on the number of processes that can be spawned?

Moreover, the Examiner's position that Midgley's storage space is limited is unsupported by his citation to column 9, lines 18-35 which is reproduced below for convenience :

Optionally, the tape library 14 may include a controller that performs a tape expiration process to rotate selectively the use of tapes in the library and which is based on the loader capacity of the tape library 14. Specifically backup of data to the automated tape library 14, which can be a conventional juke box device that, can happen in a manner wherein after multiple or incremental system backups, essentially all available tape space is employed. Thus there is no more blank tape available for recording information. Rather than have a human remove the tape, and automatically reuse the oldest tape, the systems and methods described herein can operate the library to provide for continuous tape back up. In this practice, data sent over the network 10 to the library 14 may employ a tape expiration technique wherein the tape holding or storing the oldest data is employed by the system for storing new data into the library 14.

Nothing in the above-quoted text supports the rejection of Claim 4 which limits the number of processes that can be started for copying. Claim 4 is therefore believed to be patentable for at least this additional reason.

The Examiner rejected Claim 19 at the bottom of page 3 of the Office Action, stating that Midgley discloses that spawning is performed only if the directory is not a current directory and not a parent directory. In support of this remark, the Examiner cited to Midgley's column 20, lines 12-49, stating that "storage space is decided before backup." The Examiner does not identify what, if any, relation is there between storage space and process limit in Midgley's patent. In the absence of such a relationship, why should Midgley's limited storage space impose a limit on the number of processes that can be spawned?

Moreover, the Examiner's position that Midgley's storage space is limited is unsupported by his citation to column 9, lines 18-35 which is reproduced below for convenience :

If multiple jobs are running concurrently between systems, the bandwidth control process 44 may use the greatest consumption value assigned to the jobs during the time they are running. As jobs finish, the process 44 may automatically adjust its bandwidth usage to use the greatest value assigned to the jobs that are still running. For example, assume the following jobs are running concurrently:

EXAMPLE 1

Job	Network Consumption
Job 1	50%
Job 2	75%
Job 3	30%

the process 44 may use the greatest consumption value of these active jobs, which is 75%. When Job 2 completes, the process 44 throttles its bandwidth usage to 50%, as both Job 1 and Job 3 are still running.

To control the bandwidth employed by the system 10, in one practice the bandwidth control process 44, for each policy set by the user, calculates a transmit window. A transmit window is be understood as the theoretical time to transmit

the packet plus a delay time between each packet. At runtime, the actual time (T1-T0) to transmit and the transmit window (P) may be used to determine the length of the delay as follows:

Get start time (T0)

Send data

Get stop time (T1)

Delay (P-(T1-T0))

If the administrator chooses a network capacity that is less than the actual line capacity, the process 44 may attempt to emulate the selected network capacity.

Nothing in the above-quoted text discloses or suggests storage space.

As noted above, even assuming Midgley limits storage space, such disclosure by Midgley does not anticipate Claim 19 which recites a limitation on the directory being not a current directory and not a parent directory. Nothing in the above-quoted text relates to directories, let alone a current directory and a parent directory. Claim 19 is therefore believed to be patentable for at least this additional reason.

Claim 29 was rejected at the top of page 4 of the Office Action, wherein the Examiner provided citations to Midgley's patent that were also provided for Claim 1.

Claim 29 is believed to be patentable because it requires means for conditional spawning in combination with means for conditional copying, as recited therein.

Specifically, at least the above-discussed arguments in reference to the **first five problems** are believed to support the patentability of Claim 29 (see page 10 of this Amendment). For example, in line 2 on page 4 of the Office Action, the Examiner once again refers to column 67 which, as noted above, does not exist in Midgley's patent. Therefore, Applicant respectfully requests the Examiner to withdraw the anticipation rejection of Claim 29 over Midgley's patent. Claims 30-33 that depend from Claim 29 are also believed to be patentable for at least the same reasons as those discussed above for Claim 29.

Claim 30 was rejected in the top half of page 4 of the Office Action, with the Examiner stating that Midgley's fig. 1 and col. 8 lines 30-65 disclose that "e-mail service is provided". Applicant respectfully traverses the Examiner's statement for being not disclosed or suggested in Midgley's col. 8 lines 30-65, which is reproduced below:

elements and nodes such as client stations, work stations, printers, hubs, routers, and other conventional data network equipment. For example the depicted servers 18-22 may be conventional files servers of the type commonly employed with computer networks and can comprise a PC compatible work station running the windows NT, UNIX, or other, operating system and having sufficient random access memory and persistent memory to operate efficiently as a server systems. Similarly, the client station 28 can be a conventional client workstation such as a PC compatible computer system running the windows NT or UNIX operating system or any suitable operating system. Additionally, the client station 28 can comprise an alternative client system such as a hand-held device, a stand alone client system such as a kiosks, or, any other suitable client device. In FIG. 1 the network 10 is depicted as a local area network, however it will be apparent to one of ordinary skill that the systems and methods described herein can be employed with wide area network, a distributed network, including the Internet or any other suitable network system.

Additionally, the data storage devices 32-38 may be understood as stores of data, or data structures that are maintained by the servers, for use by the network users. It will be understood by those of skill in the art, that these data storage device element may be conventional database systems, as well as conventional file systems, such as the Windows NT file system, or the Unix File system, both of which have directories of data file that may be backed up by the systems described herein. Moreover, the back up systems described herein will operate with data storage devices that store different formats of data and different types of files. For example, the data storage devices may store data files, executable files, registry information, database structures and other conventional data formats and data types. Moreover, FIG. 1 shows these stores of data as local to the server, however, it will be understood that such data stores may also be distributed across a plurality of locations and devices. The data may be physically stored on any suitable

Nothing in the above-quoted text discloses or suggests e-mail. Moreover, Midgley's fig. 1 which is reproduced below also fails to disclose or suggest e-mail.

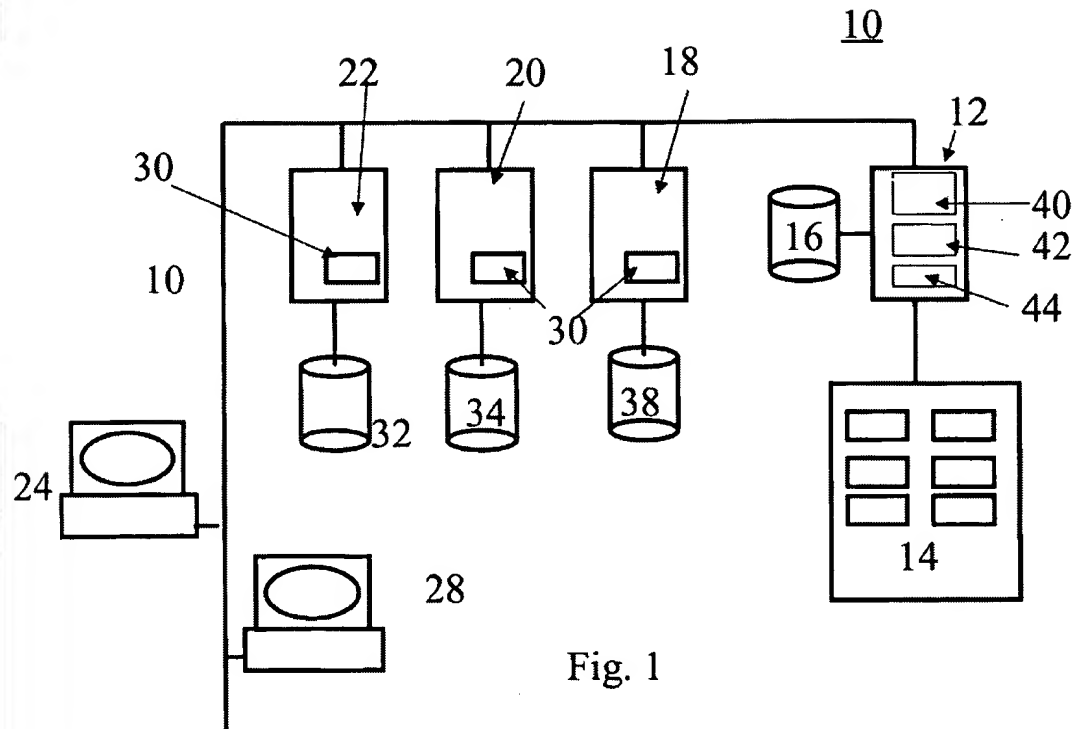


Fig. 1

Applicant submits that the Examiner's unsupported statement that the above drawing and the above-quoted text disclose "e-mail" is insufficient to reject Claim 30.

In this context, Applicant has independently found that Midgley discloses that his server 18 may store email data in a structured format within data storage device 38 and provide users access to the email data upon request (see Midgley's column 7, lines 50-52). Even assuming that this disclosure by Midgley suggests sending of email, Midgley fails to anticipate Claim 30, because Claim 30's email sending means is explicitly conditioned on the means for copying encountering an error. Claim 30 is believed to be patentable for at least this additional reason.

If the Examiner continues to reject Claim 30 over Midgley's teachings, Applicant hereby requests the Examiner to explicitly identify a single sentence in Midgley's text and a single box in Midgley's drawings which discloses or suggests an email sending means which is conditional (on encountering an error).

The Examiner stated in the bottom half of page 4 of the Office Action that Claim 31 was rejected because Midgley discloses increasing a limit on a resource to maximum. In support of this remark, the Examiner cited to Midgley's column 12, lines 33-67 which is reproduced below for convenience:

FIG. 3 further depicts that the data selection field 68 may include information on source data files that are to be maintained as transactional groups. To this end, the user may employ a transactional group process to group together select ones of the data files within the data structure 52. In particular, FIG. 3 depicts a box 78, placed around two data files, to indicate that these files are to be maintained as a transactional group. Once so identified, the backup process will coordinate changes to the associated target files with the two source data files within the box 78 to thereby update these data files in concert. Once the user has identified the source data files and the transactional groups within the data source file the selected information can be stored within the profile file 50 for use by the backup process.

Similarly, the console process can allow a user to select the timing for the backup process and can store this information in a select timing for backup field 80 within the profile file 50. For example, the console process can allow the user to indicate how often a synchronization replication process is to be carried out to create a baseline set of target data files. Additionally, the console process may allow a user to identify whether dynamic replication is to occur continuously, or periodically, or according to another type of schedule or according to a set of parameters defined by the operation of the network, such as Network Bandwidth, Buffer Availability, or other network resource parameters. FIG. 3 further depicts that the profile file 50 may include a select overwrite mode field 82 wherein the method for overwriting data may be selected between a number of options. For example, the console process may allow the user to indicate during a synchronization process, a target data file that is identified as being out of synchronization with its corresponding source data file is to be overwritten by a complete new copy of the source data file. Alternatively, the user may select that only the changes between the source

Nothing in this Examiner-cited text from Midgley's patent even remotely suggests increasing a limit on a resource to maximum. Hence this is an additional reason for the patentability of Claim 31.

Also, certain claims (such as Claim 33) require the checking if a link is pointing to itself, which is nowhere disclosed or suggested by Midgley. In rejecting Claim 33, the Examiner cited to column 14, lines 24-67, and column 15 lines 1-65 and column 20, lines 12-49 which have been reviewed, but no support for the Examiner's statement has been found. In fact a key-word search on the word "link" in Midgley's patent shows that this

word occurs only in column 19 at lines 51-52 in the context of a network link. Hence the Examiner has failed to make a prima facie case of anticipation of Claim 33.

Applicant also respectfully traverses the Examiner's motivation for modifying the teachings of Midgley with the teachings of Crouse. The Examiner stated the motivation at the end of page 8 of the above-identified Office Action as follows "motivated to use such a combination because that would provide Midgley's system the storing data in temporary buffer to provide efficient data transferring method in the data management system." Note that this motivation is identical to the motivation which the Examiner provided in the Office Action dated December 9, 2004 at page 7, with the exception that previously the Examiner referred to Crouse's system. As per this logic, each and every data transferring method in the world should store data in a temporary buffer and use Crouse's DMA. Clearly, Crouse's DMA cannot benefit each and every data transferring method in the world. Hence, this is an impermissibly broad motivation, which has been cited without prior art support. Claims 11 and 32 are therefore patentable for at least these additional reasons.

Claims 43 and 44 are believed to be allowable for one or more reasons similar to those discussed above.

Finally, in a telephone call with the undersigned today, Examiner Woo indicated that the IDS filed in October 2003 was considered. Examiner Woo confirmed that the initialed PTO-1449 had not been sent in the Office Action dated April 7, 2004. Accordingly, today Examiner Woo sent the attached copy of the initialed PTO-1449 (see EXHIBIT A) by facsimile to 408-982-8210, to confirm that references were considered.

If the Examiner allows any claims, Applicant requests the Examiner to consider allowance of withdrawn claims, if they contain the same limitations that permit allowance.

In view of the above remarks, Applicant submits that all pending claims are in form for allowance and allowance thereof is respectfully requested. Should there be any questions concerning this paper, please call the undersigned at (408) 982-8203.

**Via Express Mail Label No.
EV 581 855 686 US**

Respectfully submitted,



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